Title: Diffusion of native defects and impurities in $CdTe/CdZnTe$.
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Abstract: In this thesis, the influence of structural defects on the electrical and detection characteristics of $CdTe$ material was investigated. The performed research focused on the reduction of structural defects in the material by annealing in Cd or Te vapor, while preserving acceptable features for X-ray and γ–ray detection. The material was characterized by measurement of the electrical resistivity and concentration and mobility of free carriers. Tellurium and cadmium inclusions were studied using infrared microscope.

The static and dynamic properties of defect structures at high temperatures and defined Cd pressures was investigated, as well, and chemical diffusion coeficients describing the dynamic properties of these defects were experimentally determined.

Keywords: monocrystal $CdTe$, structural defects in semiconductors, annealing in Cd or Te, chemical diffusion coefficient, γ–ray detectors.